DOCUMENT RESUME

ED 151 727 CS 003 942

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TITLE Behavior Analysis of Reading Instruction Using Forced Q Sort Methodology.
PUB DATE May 77
NOTE 43p.; Paper presented at the Annual Meeting of the Northern Illinois Association for Educational Research Evaluation & Development (1st, Bloomingdale, Illinois, May 1977)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Behavioral Science Research; Elementary Education; Measurement Techniques; *Reading Instruction; *Reading Research; *Teacher Behavior; Teacher Education; *Teaching Techniques

ABSTRACT

Some 360 elementary teachers and reading specialists participated in this study, which sought to develop an inventory of specific behaviors in the teaching of reading. Factor-analytic and Q-sort techniques were used to identify 20 factors in the final 180-item inventory. Analyses of teachers' ratings of the items indicated that differences in behavior were not dependent upon type of pupil, school site, or amount of coursework; that differences in behavior were evident on the basis of years of teaching experience; and that changes in behavior and role perception were mostly likely to occur during the early years of teaching. Extensive tables of results are included in the report. (AA)

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Behavior Analysis of Reading Instruction Using Forced Q Sort Methodology

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Presented to: Northern Illinois Association for Educational Research, Evaluation, and Development

May 13, 1977

CS003942

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D. ABSTRACT: Behavior analysis has recently been applied as an approach to the improvement of teacher-training. In this research a list of possible contextual variables in the teaching of reading was compiled. Factor analysis was used as an exploratory device to determine what behaviors might represent overall factors. A Q Sort of the final inventory of 180 behaviors was presented to a group of 230 teachers of selected characteristics. Weighted means were established for each behavior and factor array. The ratio of the observed variance of ranks to the maximum possible was computed. Inter- and intra-group correlations were computed. Results among four variables; (a)urban/suburban, (b)little/much experience, (c)black/white only pupils, and (d)little/much coursework showed significant differences in the experience variable only. Recommendation was presented for a teacher-training model which would extend into and support early years of teaching.

Behavior Analysis of Reading Instruction Using Forced Q Sort Methodology

Behavior analysis has only recently been used as an approach to the improvement of teacher performance. Despite the acknowledged relationship between teacher behaviors and pupil success in learning to read, past studies have supplied little empirical data that would help us understand how such behaviors develop and what factors may precipitate their selection. Programs of educational research tend to ignore the study of teaching behaviors largely because of the difficulties inherent in methods which require on-site observation and record keeping. However, such analysis is of critical need in the area of reading instruction where many school districts face another decade of further slippage.

This study describes a method of examining current behaviors related to classroom reading instruction using forced Q Sort methodology. It concerns teacher perceptions of important behaviors engaged in during the reading instruction process. Inter- and

and intra-group measurement techniques were used to explore whether any differences in perceptions occur on either or all of the following variables: school site, years of experience, amount of coursework, and pupil race.

Since meaningful relations exist in uderlying factors and not in overt behaviors such as the item content of the sorts, the task was to determine not only the factors affecting subject variables but also the factors underlying an array of behaviors. For purposes of this research Q was used to determine what two groups of teachers, urban and suburban, perceive as important behaviors. Information was correlated and factor analyzed for the strength of agreement of each group with the overall agreement of both groups. Analysis compared the relationships between the urban and suburban grups and three other variables: (a) years of experience, (b) pupil race, and (c) number of reading and reading related courses completed.

The rank order and weighted mean averages by relative distribution of behaviors was computed. Kendall's tau was used to determine the overall degree of consistency of the eight variable rankings and twenty factor arrays. A correction for tied ranks

was computed and Chi square was used to test the significance (.01) of the coefficient of concordance. Spearman's rank order from residual intercorrelations was used between inner-urban and outer-urban subjects. The results of the analysis should support Q as a method of accurately identifying the importance of items on a reading teaching inventory across specific teacher populations.

Method

Subjects

Approximately 360 elementary teachers and reading specialists attending one of ten local universities and colleges or teaching in a large urban district participated in this study. Subjects were selected for particular characteristics following the suggestion of Stephenson that "what is essential when one chooses X to be part of the study is a good theory and faith that there are plenty more cases where X came from." Also, the major criteria in a Q sort study is representativeness. See Figure 1.

Insert Figure 1 here

Figure 1

Demographic information on subjects

Type of school	Urban	56%
	Suburban	44%
Years of Experience	1-5	37%
	6+	63%
Ethnicity of pupils	All black	49%
	All white	54%
Coursework completed in reading	1-3	44%
	4+	56%

Procedure

The first task was to develop an inventory of reading teaching behaviors. Two sources of information determined the list of behaviors. The first source came from teachers who were asked to record behaviors engaged in during the reading instruction period. A second source tapped behaviors currently presented in text references used in a variety of reading methods courses. The behaviors were subjected to an analysis of three raters (a reading specialist, a curriculum consultant, and a University professor) as a measure of inter-rater reliability. This analysis provided a method of supporting the value of independent factor coefficients for item weights.

Twenty factors were interpretable from the nominated behaviors and given the following lables: (1) preassessment, (2) planning lesson design, (3) planning objectives, (4) procedural routines and record keeping, (5) providing instructional resources, (6) developing instructional materials, (7) use of school resources, (8) cooperation with colleagues, (9) parent communication, (10) classroom control, (11) positive learning approach, (12) pupil learning

activities, (13) lesson presentation, (14) teaching techniques, (15) discussion, reinforcement and review, (16) skills practice, (17) related learning experiences, (18) individual work with pupils, (19) testing and evaluation, (20) self-analysis and improvement.

Once these factors had been identified the next step ensured that the structured Q array had equal numbers of items for each factor. The final 180 behaviors represented a balanced design with nine behaviors in each array. In this way intra-subject variability and inter-subject discriminatory potential were built in.

The Q decks of 180 behaviors were distributed onsite in group settings to several graduate classes and workshops. At this time subjects were instructed in the completion of a two step forced Q sort. "The purpose of the sorting is to get a conceptual representation of the sorter's attitude toward the subject being considered - 'what is in his head.'" (Brooks) In addition to the sort, subjects were asked to complete a questionnaire concerning years of experience, number of reading and reading related courses

completed, years of experience and pupil race.

Initially all behaviors were considered to be dependent variables, either they are engaged in or they are not. Subjects were asked to delimit all those items which did not represent one of their behaviors. This sort was set aside. The relative importance of first value behaviors was established along a continuum, outstanding to little importance, using a platykurtic distribution. All subjects' number of selected behaviors were within the recommended range of 50 to 100 items.

Absolute frequencies, percentage of response on each behavior and factor array were established and weighted means computed. Q Arrays were created for each subject, factor and variable. Kendall's tau correlation of concordance between ranks was used to determine the ratio of the observed variance of ranks to their maximum possible variance among the array rankings of 180 behaviors Intra-group agreement was calculated using Spearman's rank order from residual intercorrelations between inner urban and outer urban subjects. Tau was found to be .0783 significant beyond the .01 level.

Analysis

Once the significance level of rankings was established, the discussion could center around similarities and differences on each of the Q behaviors, Q arrays, and the stated variables. Individual sorts were item analyzed. Factor analysis was completed by regrouping the sorts according to the variables: urban and suburban subjects, subjects having less or more than three reading courses, subjects with black only and white only pupils, and subjects having less or more than five years experience.

Evidence from the item analysis suggested that in the majority of cases ratings were completed on the basis of actual rather than expected behavior.

Insert Table 1 here

Examining Table 1 it may be inferred that urban subjects use school resources more than suburban subjects. They perceive individual work with pupils as a most important behavior. Urban subjects see themselves as engaging in pupil learning activities more than

suburban subjects, but view lesson design of lesser importance than suburban subjects. Suburban subjects engage in more related learning experiences and place more emphasis upon lesson presentation. Results also show that suburban subjects engage in parent communication behaviors more than urban subjects. This is generally believed to be true and to some extent supports the validity of Q as a method for gathering information on teacher behavior.

Insert Table 13 Here

Subjects tended to rate the Q Array "Cooperation With Colleagues" of little importance. Items such as: observe other teachers teaching reading, assist new teachers in instructional methods, and contributing to the pooling and exchange of books presented no intra- or inter- group differences in sorting.

Table 2 indicates that subjects who have three or more reading courses tend to value teaching techniques much more than those subjects who have had less than three courses in reading. The first group also places

much more importance upon skills practice and preassessment. Later on when intra-group analysis was performed such differences were highly correlated with years of experience.

Insert Table 2 here

Table 3 indicates that those subjects having only black pupils place outstanding importance upon classroom control. This was the only Q Array having more importance than all others. Both groups, black only and white only in pupil populations, were in general agreement on all other arrays.

Insert Table 3 here

Overall subjects' responses tended to value the Q Arrays: positive learning approach, self-analysis and improvement, testing and evaluation and classroom control over all other behaviors. It is worth noting that very few of the items within these arrays concerned behaviors where subjects are actively engaging in the teaching of reading. Overall subjects' responses tended to value cooperation with colleagues, related learning experiences, and developing instructional materials the least.

Insert Table 5 here

In examining item behaviors viewed as having little or no importance on each array some interesting perceptions were discovered. For example on Lesson Presentation (Table 18) the directed reading lesson approach appears last in rank order. Under classroom control (Table 15) most of the weight is directed toward being aware of problems confronting pupils outside the classroom - something over which a teacher has no control. The item "use accelerating consequences for speeding up behaviors" which is within the control of the teacher is rated of little or no importance!

Salient behaviors for both urban and suburban subjects were: use more than one approach in the teaching of reading, keep communication open between myself and pupils, use positive reinforcement daily with pupils, encourage pupil to pupil communication, have pupils retell a sentence, paragraph or sentence orally, and am accountable for the academic progress of my pupils. Behaviors identified as salient for suburban subjects only were: refer pupils with subtle learning problems,

provide free reading time, and change method or material if something doesn't seem to be working. Salient behaviors for urban subjects only were: identify pupil attitudes toward reading, discuss word meanings with pupils, and allow pupils to choose nonessential objectives.

There were little or no significant differences between sort distributions of subjects having black only and white only pupils. Therefore intra-group agreement was calculated using Spearman's rank order from residual intercorrelations. This statistic allowed further examination of item sorts between outer and inner urban subjects.

Salient factors for outer urban subjects were: deal with problem parents, selection of objectives mainly through nonsystematic diagnosis, maintain open communication with pupils, identify pupils having symptoms of learning problems, and use the directed reading lesson approach. Outer urban subjects did not feel themselves as accountable for the academic progress of their pupils as did inner urban subjects.

Of special interest was the fact that all subjects ranked the principal's function and role in the school reading program as of little or no importance. (See Table 9).

Differences in weighting behaviors between subjects having more or less than three courses in reading were not significant with one exception. Subjects having had more coursework saw themselves as evaluating their own teaching regularly. Sorts of subjects with less coursework placed more significance on behaviors related to classroom control.

Subjects having less than five years experience had little agreement as to the importance of any one single or group of behaviors. The only salient behavior on the part of both subjects in the experience variable was to allow free reading time.

It is also worth noting that 71% of subjects with less than five years of experience were responsible for assigning of outstanding importance the behavior to assign grades in reading in the array "testing and evaluation." No salient behaviors were evidenced by sorts of subjects having less than five years of experience regardless of pupil race, school site, or amount of coursework.

Conclusions

Three generalizations are well supported by the results of the data anlaysis:

1. That differences in behavior were not dependent upon type of pupil, school site, or amount of coursework.
2. That differences in behavior were evident on the basis of years of experience.
3. That changes in behavior and role perception most likely occur during the early years of teaching.

Due to the findings of this study it seems appropriate to conclude that the first five years of experience are vital periods in the development of role perception of the teaching of reading. Results of this preliminary study of reading teaching behaviors argue in favor of a teacher training model which extends into the first few years of employment. The analysis allows us to generalize that experience is a valid criterion for use in balancing a reading instructional program throughout a school system.

The absence of a support system during these early experiential years may be a major factor in the continued attrition rate among young, inexperienced teachers and the encouragement of mediocrity in those who remain.

Table 1

Rank Order of 20 Factors by Weighted Means

Urban/Suburban Teachers

Factor	Weighted Means		Rank	
	Urb	Sub	Urb	Sub
Positive Learning Approach	228.2	195.3	1	1
Self-analysis and Improvement	215.3	183.0	2	2
Discussion,Reinforce,Review	202.7	182.5	3	3
Classroom Control	197.5	174.7	4	6
Testing and Evaluation	190.8	176.2	5	5
Use of School Resources	189.3	169.2	6	9
Planning Lesson Design	184.0	178.3	7	4
Teaching Techniques	177.5	170.8	8	8
Procedural Routines/Records	177.3	169.2	9	10
Lesson Presentation	176.5	172.7	10	7
Individual Work With Pupils	173.5	148.0	11	19
Provide Instructional Resources	170.8	158.3	12	14
Pupil Learning Activities	167.7	149.8	13	18
Skills Practice	162.7	160.7	18	11
Preassessment	161.2	158.0	15	15
Parent Communication	154.0	166.7	16	12
Planning Objectives	149.8	157.0	17	16
Related Learning Experiences	147.0	138.3	18	11
Develop Instructional Materials	138.2	155.7	19	17
Cooperation With Colleagues	129.7	146.7	20	20

Table 2

Rank Order of 20 Factors by Weighted Means

Coursework in Reading and Reading Related Subjects

Factor	Weighted Means		Rank	
	>3	<3	>3	<3
Positive Learning Approach	137.0	186.5	1	1
Self-analysis and Improvement	124.2	174.2	2	2
Discussion,Reinforce,Review	112.3	172.8	3	3
Testing and Evaluation	111.5	155.5	4	5
Planning Lesson Design	109.3	153.0	5	8
Classroom Control	109.2	163.0	6	4
Use of School Resources	105.7	153.0	7	7
Lesson Presentation	101.2	148.0	8	10
Procedural Routines/Records	98.8	147.7	9	11
Teaching Techniques	94.0	154.3	10	6
Parent Communication	89.5	131.2	11	16
Individual Work With Pupils	84.0	137.5	12	14
Pupil Learning Activities	83.5	134.0	13	15
Provide Instructional Resources	83.5	145.7	14	12
Planning Objectives	81.0	125.8	15	17
Preassessment	75.8	143.3	16	13
Skills Practice	73.0	150.3	17	9
Develop Instructional Materials	72.2	121.7	18	18
Related Learning Experiences	67.5	117.8	19	19
Cooperation With Colleagues	65.7	110.7	20	20

Table 3

Rank Order of 20 Factors by Weighted Means

Only Black Pupils - Only White Pupils

Factor	Weighted Means		Rank	
	OB	OW	OB	OW
Positive Learning Approach	155.2	168.3	1	1
Self-analysis and Improvement	153.2	145.2	2	3
Classroom Control	145.2	127.0	3	7
Testing and Evaluation	138.2	128.8	4	6
Discussion,Reinforce,Review	136.3	148.8	5	2
Use of School Resources	130.8	127.8	6	5
Teaching Techniques	129.2	119.2	7	10
Planning Lesson Design	129.0	133.3	8	4
Procedural Routines/Records	125.7	120.8	9	9
Lesson Presentation	125.0	124.2	10	8
Individual Work With Pupils	122.0	99.5	11	15
Pupil Learning Activities	121.2	96.3	12	16
Provide Instructional Resources	120.0	109.2	13	12
Preassessment	118.2	101.0	14	14
Skills Practice	118.0	105.3	15	13
Planning Objectives	110.7	96.2	16	17
Parent Communication	108.8	111.8	17	11
Related Learning Experiences	103.3	82.0	18	19
Cooperation With Colleagues	94.5	81.8	19	20
Develop Instructional Materials	98.5	95.3	20	18

Table 4

Rank Order of 20 Factors by Weighted Means

Low Experience/High Experience Teachers

Factor	Weighted Means		Rank	
	LE	HE	LE	HE
Positive Learning Approach	106.8	216.7	1	1
Self-analysis and Improvement	104.0	194.3	2	2
Discuss, Reinforce, Review	97.7	187.5	3	3
Classroom Control	96.7	175.5	4	7*
Planning Lesson Design	93.5	168.8	5	8
Use of School Resources	87.7	181.0	6	4
Testing and Evaluation	85.7	181.3	7	5
Lesson Presentation	84.3	164.8	8	9
Procedural Routines/Records	82.0	164.5	9	10
Teaching Techniques	79.7	178.7	10	6
Parent Communication	77.5	143.2	11	16
Planning Objectives	71.8	135.0	12	17
Providing Instructional Resources	71.5	157.7	13	11
Skills Practice	70.7	152.7	14	13
Preassessment	70.2	149.0	15	15
Developing Instructional Materials	68.3	125.5	16	19
Pupil Learning Activities	67.8	149.7	17	14
Individual Work With Pupils	66.0	155.5	18	12
Related Learning Experiences	64.0	132.3	19	18
Cooperation With Colleagues	63.3	124.0	20	20

*Rank order becomes 9 when item weights of suburban subjects are considered separately.

Table 5

Rank Order Factor Arrays

Factors	WM
Positive Learning Approach	332.46
Self-Analysis and Improvement	330.28
Planning Lesson Design	299.31
Classroom Control	295.13
Planning Objectives	269.88
Pupil Learning Activities	260.73
Lesson Presentation	254.68
Related Learning Experiences	250.47
Individual Work With Pupils	249.96
Discuss, Reinforce, Review	249.32
Teaching Techniques	245.07
Preassessment	243.64
Use of School Resources	228.0
Developing Instructional Materials	217.6
Skills Practice	210.57
Procedural Routines	204.98
Cooperation With Colleagues	204.58
Providing Instructional Resources	198.15
Parent Communication	193.56
Testing and Evaluation	176.27

Table 6

Rank Order by Weighted Means

Factor Array - Preassessment

Overall Rank	Behavior	WM
17	Identify pupils having symptoms of possible learning problems	40.1
36	Determine the instructional level of each pupil	34.5
48	Determine the reading capacity level of pupils	33.6
52	Identify pupils' attitudes towards reading	33.0
72	Determine pupils whose general ability is above their reading ability	30.18
98	Use reading potential measurement techniques	26.62
115	Compare interest levels of pupils with developmental reading levels	23.64
150	Use individual item responses on achievement tests to prescribe a reading program for a pupil	16.0
175	Be familiar with the school records of pupils	6.0

Table 7

Rank Order by Weighted Means

Factor Array - Planning and Lesson Design

Overall Rank	Behavior	WM
8	Use more than one approach in the teaching of reading	44.8
16	Provide opportunities for group activities	40.51
19	Provide free reading time	39.5
29	Plan activities which assist in the development of values	37.6
37	Read aloud regularly to my class	35.38
61	Allow time for round robin reading	31.86
77	Provide experiences with timed reading	29.3
108	Limit the amount of time spent in silent reading activities	24.86
147	Maintain a balance in instructional time for all aspects of reading	16.5

Table 8

Rank Order by Weighted Means

Factor Array - Planning Objectives

Overall Rank	Behavior	WM
4	Change method or material if something doesn't seem to be working	48.3
33	Plan objectives for individual children in my class	36.6
42	Allow pupils to choose the mode through which a skill objective is to be mastered	34.28
45	Plan objectives for my class	33.88
71	Use nonsystematic diagnosis in selecting skills objectives	30.5
80	Use a behavioral objective approach to skills mastery	29.0
82	Follow the curriculum guide of my district	28.7
157	Allow pupils to choose nonessential objectives	14.32
158	Use the next story in the reader for determining the objectives for the new lesson	14.3

Table 9

Rank Order by Weighted Means

Factor Array - Procedural Routines and Record Keeping

Overall Rank	Behavior	WM
50	Establish reading groups for my class	33.18
56	Maintain daily lesson plans	32.56
58	Document pupil performance with concrete evidence	32.5
80	Prepare written reports, upon request, of a particular pupil's progress	29.0
99	Keep systematic records of pupil progress	26.6
134	Explain results of instruction and/or tests to my principal	20.54
160	Seek guidance from the principal as leader of the overall reading program	13.5
164	Establish the readability level of my content area textbooks	11.8
174	Secure permission from the principal for unusual changes I would like to make in my reading program	6.3

Table 10

Rank Order and Weighted Means

Factor Array - Providing Instructional Resources

Overall Rank	Behavior	WM
25	Provide games to teach vocabulary skills, following directions etc.	38.2
97	Provide individual study modules for independent study	26.8
106	Select reading curriculum materials	25.3
113	Provide activities related to stories that promote vocabulary growth	24.3
119	Provide a specific format for a scheduled parent conference	22.1
126	Develop creative play with class as an outgrowth of a literary experience	21.25
128	Provide materials and techniques for improving rate of comprehension adjusting to different purpose for reading	21.1
169	Provide resource material for bilingual pupils	10.0
171	Maintain a classroom library	9.1

Table 11

Rank Order and Weighted Means

Factor Array - Developing Instructional Resources

Overall Rank	Behavior	WM
13	Prepare a specific format for pupils to follow in making a book report	41.3
14	Select and order supplementary material for my reading program	41.1
55	Construct a transparency for instructional purposes	32.6
67	Design types of exercises for teaching the comprehension of the relation between paragraphs	31.1
121	Construct materials for correcting word recognition and other types of reading difficulties	21.8
138	Design various types of exercises that can be used for teaching the comprehension of larger units of language	20.0
153	Prepare an informal reading inventory	15.5
166	Prepare specific exercises for helping students recognize the role of each sentence in relation to others	10.6
178	Construct activities to correct inappropriate orientation habits	3.6

Table 12

Rank Order and Weighted Means

Factor Array - Use of School Resources

Overall Rank	Behavior	WM
53	Participate in selecting pupils for special reading help	32.88
59	Seek outside advice for evaluating a particular method used with a child experiencing reading problems	32.33
68	Use the library for a number of instructional purposes	30.88
89	Discuss pupil failure with special service people	28.3
92	Foster pupil participation in a variety of ways	28.1
118	Secure principal's support for recommending pupils for special assistance in reading	22.8
125	Train a volunteer in the use of instructional reading materials	21.162
141	Maintain constructive relations with area consultants in reading	18.62
163	Serve on curriculum committees	12.5

Table 13

Rank Order and Weighted Means

Factor Array - Cooperation With Colleagues

Overall Rank	Behavior	WM
22	Participate in staffings involving the placement of a pupil	38.8
44	Cooperate in an exchange of information with those teachers who are recipients of my pupils	34.1
87	Share my ideas with other teachers	28.53
105	Contribute to the pooling and exchange of books	25.32
116	Evaluate guidelines for selection of children for special assistance in reading	23.61
139	Observe other teachers teaching reading	19.82
152	Assist new teachers in instructional methods and materials	15.6
167	Participate in the planning of a special reading facility for my school or district	10.5
172	Design an instrument for evaluating curriculum materials	8.3

Table 14

Rank Order and Weighted Means

Factor Array - Parent Communication

Overall Rank	Behavior	WM
65	Explain my reading program to parents	31.6
70	Counsel parents of children having learning problems	30.6
81	Prescribe specific teaching strategies that parents can easily use to reinforce previous learning	28.86
109	Inform parents both informally and formally of a pupil's progress	24.84
137	Deal with problem parents	20.1
151	Seek parent cooperation for eliminating chronic absenteeism on the part of a pupil	15.62
156	Work with parent volunters	14.5
162	Involve parents in setting the goals of classroom instruction	13.0
170	Encourage the attitudes of parents towards reading	9.3

Table 15

Rank Order and Weighted Means

Factor Array - Classroom Control

Overall Rank	Behavior	WM
11	Be aware of problems confronting pupils outside the classroom	41.6
15	Allow class to share in the decision making	40.52
24	Use a variety of classroom arrangements	38.3
26	Deal with problem children	38.1
39	Use "instructional level clusters"	34.35
51	Assign pupils partners for learning experiences	33.1
86	Resolve class conflicts among classmates rather than as a policy decision of myself	28.56
96	Provide self-checking devices	27.3
161	Use accelerating consequences for speeding up behaviors	13.3

Table 16

Rank Order and Weighted Means

Factor Array - Positive Learning Approach

Overall Rank	Behavior	WM
1	Encourage the development of self-confidence on the part of my pupils	50.3
2	Maintain open communication with all pupils	50.1
6	Use positive reinforcement daily with each pupil	46.4
7	Provide pupils with feedback on their performance	45.5
18	Avoid assumptive teaching	39.6
27	Use cues that promote desirable behavior	37.86
69	Model a particular technique before pupils begin to work on their own	30.86
146	Adjust amount of instruction to rate of learning	16.52
154	Allow a pupil to use "crutches" if needed to complete a task	15.32

Table 17

Rank Order and Weighted Means

Factor Array - Pupil Learning Activities

Overall Rank	Behavior	WM
9	Foster pupil to pupil communication	44.3
28	Have drill to allow the pupil to respond frequently during the introduction of a skill	37.82
60	Recommend books for reading	32.0
64	Provide creative thinking exercises	31.81
66	Use either substitution or reinforcement to maintain new behaviors	31.5
73	Utilize role-playing as an instructional strategy	30.1
110	Read a child's own work to the class	24.7
129	Prepare a classroom newspaper	21.0
511	Guide pupils in preparing special reports or other reading-related projects	7.5

Table 18

Rank Order and Weighted Means

Factor Array - Lesson Presentation

Overall Rank	Behavior	WM
23	Build word meaning associations	38.36
32	Lead pupils to analyze and interpret pictures	37.1
34	List new vocabulary prior to the introduction of a new story	36.3
46	Demonstrate technique for using context clues to unlock the pronunciation of words	33.82
76	Teach word analysis skills before the next basal story in the reader	29.5
113	Teach pupils how to use maps, graphs tables, and diagrams	25.1
117	Teach the use of context clues to determine and pronounce new words	23.1
149	Introduce vocabulary with emphasis on internal configuration patterns	16.1
155	Use directed reading lesson approach	15.3

Table 19

Rank Order and Weighted Means

Factor Array - Teaching Techniques

Overall Rank	Behavior	WM
10	Discuss word meaning with children	43.0
49	Teach pupils to use roots and affixes in attacking new words	33.5
75	Teach when consonant letters are silent in words	29.6
90	Teach pupils to recognize a large number of graphonemes which have stable phonemic values and sound elements in many words	28.2
91	Teach pupils to apply phonetic principles to syllabication and accent techniques	28.17
122	Require a written activity with each reading lesson	21.5
132	Teach pupils to locate materials on varied subjects in a library	20.8
135	Use learning paks to accompany and supplement reading skills	20.5
140	Teach topic sentence using the "invisible because" technique	19.8

Table 20

Rank Order and Weighted Means

Factor Array - Discuss, Reinforce, and Review

Overall Rank	Behavior	WM
20	Provide consistent and specific answers to pupils' requests for help with a reading skill	39.3
21	Teach pupils to listen to significant features of stories, including sequence of events, character type and elements of surprise	38.83
43	Teach interpretive comprehension using commercially prepared materials	34.24
54	Teach literal comprehension using commercially prepared materials	32.8
62	Use activities which require the use of phonics rules	31.84
85	Use the "say it fast, say it slow" technique of highlighting	28.62
120	Train pupils to take tests	22.0
131	Teach meaning signals given by language structure patterns	20.86
180	Use the controlled reader or other mechanical device	.83

Table 21

Rank Order and Weighted Means

Factor Array - Skills Practice

Overall Rank	Behavior	WM
30	Teach pupils to give several minutes of their attention when someone is speaking	37.56
57	Evaluate the reading lesson through oral questioning of the group	32.54
88	Use self-directed study with all my pupils	28.5
104	Use the Language Master	25.55
111	Use the "directed-reading-thinking-activity"	24.6
127	Use programmed instructional materials	21.12
133	Teach the T Square method for pupils having difficulty in content area reading	20.6
142	Teach SQ3R technique	18.6
179	Use VTR for evaluating my teaching method	1.5

Table 20

Rank Order and Weighted Means

Factor Array - Related Learning Experiences

Overall Rank	Behavior	WM
3	Have pupils retell a sentence, paragraph or story orally	49.1
31	Allow pupils to choose nonessential objectives	37.5
38	Lead pupils to perceive sensory images from poems and stories	34.37
78	Instruct pupils in the use of the dictionary	29.2
83	Involve pupils in dictating group and individual stories growing out of meaningful experiences	28.67
84	Teach pupils to identify significant information from reading	28.66
124	Use puppetry as a means of supplementing language instruction	21.167
145	Use language experiences as an approach to beginning reading	16.8
177	Teach identification of parts of speech and setence construction as part of the reading lesson	4.5

Table 23

Rank Order and Weighted Means

Factor Array - Individual Work With Pupils

Overall Rank	Behavior	WM
63	Help a pupil to identify a reading skill to be improved	31.84
94	Help a pupil in the articulation of speech sounds	27.6
103	Act as a tutor	25.56
117	Help a pupil correct inappropriate eye eye movements	23.67
143	Hold individual teacher-pupil conferences in conjunction with some type of reading activity	18.5
144	Kepp a record of the reading interests of pupils	18.1
148	Seek ways to eliminate chronic tardiness on the part of a pupil	16.3
168	Prepare a case study of a pupil who is having reading problems	10.1
176	Make adjustments for pupils who are handicapped in some way	4.6

Table 24

Rank Order and Weighted Means

Factor Array - Testing and Evaluation

Overall Rank	Behavior	WM
74	Assign grades in reading at the end of the grading period	30.0
100	Administer achievement tests	26.0
101	Prepare teacher-made tests	25.8
102	Administer an informal reading inventory	25.6
112	Read short content selections aloud followed by paper and pencil questions	24.5
121	Pre and post test each skill presented	21.8
130	Design a test that can be used to detect and correct simple difficulties with word recognition	20.88
136	Have pupils demonstrate mastery of skills through paper and pencil activities	20.3
165	Use the cloze technique	11.6

Table 25

Rank Order and Weighted Means

Factor Array - Self-Analysis and Improvement

Overall Rank	Behavior	WM
5	Evaluate my own teaching performance regularly	47.5
12	Am accountable for the academic progress of my pupils	41.5
35	Request another teacher to observe my lesson presentation	35.3
40	Take additional classwork in the field of reading and reading related subjects	34.33
41	Read something recent concerning teaching reading	34.3
47	Attend professional meetings and seminars or workshops	33.8
93	Attend in-service regularly	27.62
95	Receive training in the use of new materials	27.5
159	Maintain membership in professional organizations	14.1

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